

Business Excellence Programs and Award Scores: Effort and reward

Lawrence M. Corbett
Victoria University of Wellington
Linda C. Angell
Ministry of Social Development

Abstract

This paper explores factors influencing continuous improvement in business excellence. Using a multi-case approach, it looks at how organisations maintain momentum in their quest for business excellence as measured by their involvement in the New Zealand Business Excellence Awards (equivalent to the Baldrige Award system)

Since its inception in 1988, the Malcolm Baldrige National Quality Award (MBNQA) has identified and rewarded best-practice U.S. firms for their innovations in, and contributions to, successful world-class management approaches. Worldwide, a number of countries have developed business excellence award programs based on the Baldrige framework (e.g. Europe, and Australia), while many organizations themselves have turned to Baldrige-based self-assessments in an effort to benchmark and improve their global market, financial, human resources, and operational performance. New Zealand adopted a Baldrige-based business excellence award program in 1993 in order to promote organizational self-assessments, recognition, and benchmarking at both the regional and national levels. In this paper we shall be drawing on the experience of New Zealand's award program.

Background on Quality Awards in New Zealand

New Zealand currently has two national quality award programs in place: the New Zealand Business Excellence Foundation (NZBEF) Performance Excellence Awards that is based in Auckland, and the Performance Excellence Study Awards (PESA) that is based in Wellington. Both awards have adopted the US criteria (NIST, 2004a) without modification so they use the same categories, items, questions to address and scoring system. The NZBEF award typically attracts larger businesses and has a more rigorous approach with a team of evaluators and a site visit element.

For the purposes of this paper, we focus on the national award program operated by the New Zealand Business Excellence Foundation (NZBEF). In order to encourage participation and improvement, the NZBEF has a tiered system of awards that are known as Gold, Silver, Bronze, and Progress. The Gold Award is the equivalent of the Baldrige Award in the USA, and to win an applicant would need to score over about 650 points in New Zealand. It had been awarded only twice since 1993. NZBEF's Silver Business Excellence Awards recognizes New Zealand organizations scoring at least 450 points; only seven applicants in the past eleven years have achieved this scoring level. Twelve New Zealand organisations have been recognized with a Bronze award up to 2002 for scoring between 350 and 450 points, and ten applicants have received a Progress award for showing significant performance improvement below 350-points. Between two and eight New Zealand organizations have applied to the NZBEF award program every year since 1993, and eleven organizations have reapplied after their initial applications (NZBEF 2004).

Our interest in this research arose from a number of sources. Both authors have been evaluators for the NZBEF award programme. One author also has experience in a state award in the USA. We were intrigued by comments made by, and a subsequent discussion, with the former NZBEF CEO. In an interview after the announcement of the 2001 results, she said:

“But even the organisations that make the effort to take part in the awards programme have trouble making the move from ‘good to very good’. They seem to strike what [former CEO] calls a ‘barbed wire barrier’ to further progress. New Zealand organisations simply do not ‘hunger to identify the very best way of doing things’ and in particular they ‘hesitate to look outside their own sector’ for the answers. Being the best in a particular sector is frequently a long way short of world class.”(Birchfield 2001).

Organisational self-assessments are encouraged by the NZBEF as part of the improvement process for organisations. In his experience of firms who embark on the journey of using the Criteria, the current CEO said

“Generally, an organization will start out on the business excellence journey by scoring in the 125- to 250-point range.” (Watson 2002)

As for all improvement programmes, using the CPE involves change in the organisation, so we were interested to know if a “barbed wire barrier” did exist in NZ organisations, because there were difficulties in the change process and the approach to using the criteria. Two consultants we spoke to suggested:

“75% of organisations using a Baldrige-based business excellence framework do not improve past about 400 points without radical change in the way they do things.”(Brown 2002)

“Firms cannot increase their score by more than 75 points per year”.(Travers 2004)

Our experiences outlined above led us to consider a number of research questions around the issue of “What works in improving Business Excellence once you have embarked on the journey?” For instance, is it possible to increase the company’s score by putting emphasis on some categories that will improve a firm’s score more or more quickly than others through some causal linkages? The Baldrige framework is described as a system and shows no causal paths. Are there time lag effects that impact on the rate of progress of improvement, especially in the Results section? Does the improvement in scores come in a linear manner or are there step changes? Are there precessional effects (Fuller 1981) in that if firms focus on improving their business, they will find their scores improving anyway? How important is context in firms’ efforts, in terms of employee size, the level of resources applied to the business excellence effort, as well as the approach to implementation and the role of self-assessment. We believe an improved score is a proxy for firms’ continuous improvement efforts and this is part of the NIST encouragement of applicants.

“The application process accelerates your improvement efforts by going beyond the internal self-assessment process, and introducing a rigorous, objective, external view of your organisation’s improvement efforts” (NIST 2004b).

This paper continues with an analysis of relevant literature, a discussion of how we carried out the research, and our results and implications for practice.

The Baldrige Criteria and Quality Management

The Baldrige criteria have changed a number of times since 1988 in terms of weightings associated with the different categories, the names of categories and the response items. Flynn et al describe the details of the 1988, 1992 and 1997 frameworks (Flynn and Saladin 2001). The changes since then are shown in the following table.

Table 1
Changes in categories and points (NIST 2004a)

Category titles	1988	1997	Current category titles	2004
Leadership	150	90	Leadership	120
Strategic quality planning	75	60	Strategic planning	85
Information and analysis	75	80	Measurement, analysis and knowledge management (2003 change)	90
Customer satisfaction	300	300	Customer and market focus	85
Human resource utilization	150	150	Human resource focus	85
Quality assurance of products and services	150	140	Process management	85
Quality and operations results	100	180	Business results	450

There is now less explicit use of the word “quality” and more attention directed to the idea of “business excellence” and the criteria are known now as the Criteria for Performance Excellence (CPE). There has been a steady shift in the criteria from focus on separate processes to focus on overall business practices and a systems view (Ettorre 1996). This paper quotes Mr. Reimann, then Director of the MBNQA as saying:

“The Baldrige hasn’t moved far from its original mandate [of fostering self-assessment] but the criteria have moved” [Ettorre (1996) p.30]

In their recent reflective review of quality management (QM) research, Sousa and Voss note that the CPE and the criteria for other awards based on the Baldrige framework include the same constructs as QM, but they argue that such quality awards are not strictly quality models because the criteria have been enlarged to cover additional items that are not, in their view, QM constructs (Sousa and Voss 2002). Indeed the CPE are designed to “help organisations use an integrated approach to organisational performance management that results in delivery of ever-improving value to customers, contributing to marketplace success, improvement of overall organisational effectiveness and capabilities and organisational and personal learning”. (NIST 2005)

The validity of Baldrige model

The popularity of the Baldrige model has encouraged researchers to examine the validity of the framework, its linkages, and any causalities. Flynn and Saladin (2001) assessed the validity of the Baldrige framework by examining it at the level of its theoretical constructs using data from the World Class Manufacturing project. They found that all three frameworks tested included robust relationships between the categories. While their paper did not empirically validate the Baldrige framework, it did provide important steps in that direction. They suggested managers should focus on what they call the three critical drivers of quality performance: leadership, which is the most important, process management, and information and analysis (Flynn and Saladin, 2001).

Wilson and Collier, who worked with the 1995 framework, concluded that the Leadership category was the most important driver of the system and, although leadership did not have a direct effect on financial results it did have an indirect effect, driving the system that caused results. Their modified MBNQA model highlighted the relative importance of management leadership, process management, and information and analysis in achieving superior financial and customer satisfaction performance. Like Sousa and Voss (2002), they believed there may be other intervening variables such as the size of the firm, cultural differences, or characteristics of the external operating environment that influence this direct performance linkage. They also called for more research on the specific directions of causation among the seven Baldrige categories.

Evans and Jack claimed their results “support long-standing beliefs and anecdotal evidence by practitioners about the relationships among endogenous and exogenous results for business performance and lend credibility to causal hypotheses that improving internal management practices leads to improvements in external results.” (p.18). (Evans and Jack 2003)

Pannirselvam et al found that the criteria form a valid and reliable measure for organizational quality, and go on to suggest that the MBNQA criteria can be used with more confidence by researchers studying organizational quality. In terms of implications for managers, Pannirselvam et al suggest all the items in each category contribute to the results score. They indicate that while managers who follow the TQM approaches as suggested by MBNQA model criteria are likely to produce good operational results and customer satisfaction, these managers need to plan and execute a concerted effort on several fronts in order to achieve world class quality (p.548). Hoisington and Huang described an empirical study conducted at an IBM division that won the 1990 Baldrige award, and demonstrated strong correlations and causal effects between market share, customer satisfaction, productivity, warranty cost, and employee satisfaction (Naumann and Hoisington 2001).

These studies indicate that the Baldrige framework has validity. There is some support for the Baldrige systems view of it being an integrated framework, but there is also support for the idea that some categories have a more significant effect on Business results than others. These are leadership (category 1), process management (category 6), and information and analysis (category 4).

Contingency issues related to implementation

There is evidence in the practitioner literature that the adoption of QM practices has not always produced the desired results and often QM programs have been abandoned. There are a number of researchers who have considered this issue and question whether QM practices, and by extension, the CPE, are universally applicable or context dependent. According to Reed et al, firms with different strategic orientations, which they labelled customer and operations, achieve financial performance through different routes with which different QM practices are associated (Reed, Lemak et al. 1996).

There have been a number of the studies that suggest the effectiveness of individual QM practices is contingent on the organizational context. The contextual variables that were studied included managerial knowledge, corporate support for quality, external quality requirements and product complexity (Benson, Saraph et al. 1991), organizational uncertainty (Sitkin, Sutcliffe et al. 1994; Reed, Lemak et al. 1996), and manufacturing strategy context (Sousa and Voss 2001).

Sousa and Voss (2001) note “it has been found that not all QM practices may need to be in place in order to produce superior quality outcomes (Dow et al., 1999). In fact several large scale empirical studies examining the impact of QM on firm performance have found that some QM practices did not have a significant impact on performance (e.g. (Powell 1995; Dow, Samson et al. 1999; Samson and Terziovski 1999). It has been suggested that this may be due to these practices being context dependent (Dow et al., 1999, Powell, 1995) p.384).

A number of studies attribute failure of QM programs to implementation problems rather than flaws in the broad QM practices model (Barclay 1993; Hackman and Wageman 1995; Samson and Terziovski 1999). Successful implementation of QM requires radical change resulting not only in redistribution of resources and power, but also in a paradigm shift that may bring onto question workers’ most basic assumptions about the nature of the organisation (Deming 1986; Sousa and Voss 2001).

In similar vein, Beer suggests implementation of top-down total quality management (TQM) programs often fail to create deep and sustained change in organizations (Beer 2003). “They become a fad soon replaced by another fad. Failure to institutionalize TQM can be attributed to a gap between top management's rhetoric about their intentions for TQM and the reality of implementation in various subunits of the organization” (p. 623). These findings are also supported by research about organizational change, which finds that any program introduced in a top-down manner, including TQM, does not lead to fundamental and persistent corporate transformations (Schaffer 1988; Beer, Eisenstat et al. 1990a; Beer, Eisenstat et al. 1990b).

There is still much debate in the literature on whether performance improvement is universalistic based on a given set of practices, or whether it is context dependent. The CPE are a universal set of items and areas to address, and while they are not prescriptive in terms of a set of procedures about how the organisations should be run or structured, applicants for awards are expected to have answers for all items. The CPE does however allow for contingency factors as organisations are “encouraged to

develop, and demonstrate creative, adaptive and flexible approaches for meeting requirements.” (NIST, 2005, p.6)

Research Methods

The research uses the actual category scores from applicants for the NZBEF award. These have been made available with permission of the NZBEF with names of organisations withheld. We particularly focused on the repeat applicants so that improvement in scores can be related to improvement activities within the firms. We used a series of interviews with the quality or business excellence manager and/or CEO in these companies to write a case study on each company and how it has approached implementing the criteria and used the feedback report to improve. Cross-case analysis followed using suggestions from the literature (Eisenhardt 1989; Yin 1989; Miles and Huberman 1994), and this was combined with textual analysis using Nvivo.

While there have been eleven organisations that have made two or more applications to the NZBEF, and we have used the scores from all of them, interviews have taken place with seven of them. Yin (1989) recommends between 4 and 10 cases for this type of approach. The percentage scores in each category were the data used in the correlation analysis discussed later. Analysis of the interview data used in Table xx was used to construct rankings for some variables. The variable “Resources estimate” refers to the level of resource committed to the Business Excellence program as measured in terms of FTE staff, Low implies up to 1 FTE, Medium up to 4 FTE, and High implies >4 FTE. For the variable “CEO involvement”, High implies the CEO was the person who drove the process and chaired the Business Excellence team, Medium implies the CEO supported the use of CPE and liked to be kept informed of progress, but was not heavily involved in their use. In order to investigate the effect of organisation size on the improvement efforts, we have used the natural logarithm of the FTE staff numbers (Terziovski and Samson 1997; Zhao, Yeung et al. 2004).

Results and Discussion

The first six categories are known as enablers as they are supposed to deliver the business results (Category 7). In Figure 1, we show the scatterplot for the relation between scores for enablers and business results for all applicants to NZBEF since 1993. The Spearman correlation coefficient $\rho = 0.6839$, and significance level $p < 0.0001$. This finding is as we would expect if the Baldrige model were a system where categories are linked. Regression gave an adjusted $R^2 = 0.47$. Tables 2 and 3 show the cross-case analysis from the scores and interviews. Category labels are in Table 1. These companies have in some cases been able to increase their scores by more than 75 points per year though most are in the range 50-70. The rate of increase is not related to the scoring band at the time of first application (Y1 band). In their first application, most scored in bands 2 (10-25%) or 3 (30-45%). In the Y1 application, among the companies’ enablers, they scored best in Human Resources (Cat 5) and were weakest in strategic planning (Cat 2), customer focus (Cat 3) and process management (Cat 6) (significant correlation). By the time of their latest application, most companies had different high and low scoring enablers, though not in all cases. Cat 2 was still the weakest for company B, and Cat 3 for Company C.

Table 2
Cross-case analysis

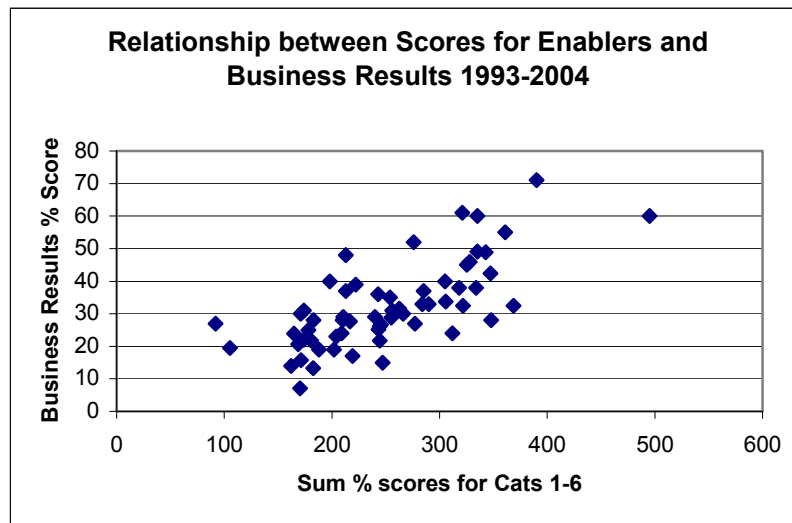
Organisation	S	C	M	B	J	H	K
Yrs of use of CPE up to LY	8	5	4	4	4	4	5
Y1 Band	3	3	2	3	4	2	2
High Enabler Cat Y1	1	5	5	3 & 6	3	6	5
Low Enabler Cat Y1	6	2 & 3	4	2	6	3 & 4	2
High enabler Cat LY	5	4 & 5	3	3	3	4	1
Low enabler Cat LY	2	3	1	2	4	5	5
FTE (ln)	6.06	7.6	5.44	3.37	6.04	6.21	5.74
Resource estimate	M	H	L	L	M	M	L
CEO involvement	H	H	H	H	H	L	L

Notation: CPE = Criteria for Performance excellence, Y1= first application, LY = latest application, Cat= CPE category, Band = Baldrige scoring band, FTE (ln) = natural log of full-time equivalent staff

Table 3
Organisation approach to using CPE

Organisation	S	C	M	B	J	H	K
Approach (sequence)	Set out to build capability in Leadership and HR categories initially, then put in more balanced effort across all categories.	Established organisation's values and then progressed values into behaviours, ensured acceptance of views from bottom, developed HR PMS, spread concept of internal customer, used own words and own model.	Staff were in awe at start, downplayed terminology and stopped doing things for the sake of more points, now ask "How do we do better business?", acknowledge that all items of CPE apply, set up improvement projects within depts that can be done in 90 day chunks.	Find someone who understands the CPE, asked themselves: "a perfect company does this, we don't, does it matter?", introduced strategic planning, worked to understand how different parts of CPE fitted together.	Every staff member could initiate "improvement ideas" all ideas came to the Quality Council to ensure they fitted the strategic direction, were not impacted by capital projects and so we could keep "control". All current projects were reviewed monthly,. Teams were only allowed 90 days to achieve outcomes. If it was going to take longer the project has to be broken down into pieces.	Went company-wide from start with category champions among senior managers, annual self-assessment with internal evaluators	Pilot in Customer Services group, drew up high-level questionnaire of 60 questions based on CPE, sent to 20 divisions 5-6 respondents/division, compared scores with Customer Services and used gap analysis to develop action plans for next 9 months and next 36 months, set targets for overall score and departmental improvements as part of performance agreements, monthly meetings of BX team
Use of self-assessment	Not really used.	Used annually from the start to identify shortcomings and missing elements	No	No, have consultant look at draft submission	Yes, annually	Yes, annually	Only within divisions
Industry	Public sector	Public sector	Services	Manufacturing	Manufacturing	Services	Public sector

Figure 1



In this paper as indicated above we are interested in how firms progress after their initial application and so in the following discussion we focus on seven of the eleven organisations that have made more than one application to the NZBEF. Table 4 shows the significant correlations between the variables in the dataset, and follow the discussion in the literature review section. We have attempted to assess the impact of the various elements of the Baldrige model on the improvement in scores. For the small sample sizes, we used non-parametric correlations and report Spearman’s rho values. The full variable names are used

Table 4: Significant Nonparametric Measures of Association

Variable	By variable	Spearman’s rho	Prob>[Rho]
Customer focus	Leadership	0.6192	0.0182
Human resource focus	Leadership	0.8234	0.0003
Human resource focus	Customer and market focus	0.5883	0.0269
Process management	Strategic planning	0.5374	0.0475
Change in total % score	Leadership	0.4758	0.0855
Change in total % score	Strategic planning	0.5385	0.0470
Change in total % score	Customer and market focus	0.6057	0.0217
Change in total % score	Measurement and analysis	0.5264	0.0531
Change in total % score	Business results	0.5408	0.0458
Y1 band	Process management	0.5442	0.0442
ln FTE	Process management	-0.5000	0.0687
Resources	ln FTE	0.7174	0.0030

The results show how improved leadership score is associated with improved customer focus, human resource focus, and change in total score. This supports some of the previous literature and suggests leadership does have a bearing on overall score directly. As we might hope improvements in strategic planning, customer and market focus and measurement and analysis do have a relationship with change in total score. For this group of organisations, process management seems to hold them back

initially and the negative correlation between size and category 6 suggests larger organisations have more difficulty improving process management – perhaps owing to coordination issues. As we would expect, larger organisations apply more resources but there is no suggestion that organisation size and the amount of resources applied are related to faster change in total score. Tables 2 and 3 show that larger organisations are more likely to use self-assessment and have used a more formal approach with the CEO and senior managers heavily involved. This is as we would expect.

Conclusions

Let us come back to the questions we posed at beginning of this paper and summarise what we have discovered. We were interested in “What works in improving Business Excellence once you have embarked on the journey?” The results show the importance of improving leadership systems in improving the overall score progress.

Implications for Theory

We also found significant correlations between overall improvement and strategic planning, human resource focus, customer and market focus, information and analysis and business results. This confirms some previous literature and reinforces some of the linkages in the Baldrige framework. It does not confirm several previous studies that found process management was important.

The Baldrige framework is described as a system and shows no causal paths. All our interviewees were certainly of the view that they needed to work on all categories to achieve fastest improvement in scores. We found significant correlations between some categories: Leadership with customer focus and with human resource focus; customer and market focus with human resource focus; and process management with strategic planning. These findings also do not indicate causality but do suggest relationships that are at variance with the arrows in the Baldrige model.

No evidence could be found for some contingency factors, such as organisation size, resources applied, industry sector, having an influence on rate of scoring progress.

This suggests that maybe it is the organisation’s approach and the ways that barriers to progress are overcome are the contextual factors that result in different improvement rates.

Implications for Practice

For these New Zealand companies, process management was a weak category in the early years of their working with the CPE, and the category 6 score was correlated with the scoring band of the initial application. Are there time lag effects that impact on the rate of progress of improvement, especially in the Results section? This appears to be the case as all companies produced far larger increases in their enabler total percentage score than in the change in Results percentage score between their initial and latest application. Does the improvement in scores come in a linear manner or are there step changes? The evidence from those organizations that have applied annually or biannually suggests that score improvement is linear, though we only have two data points for some of them. In the interviews, some respondents in organizations that reapplied after a number of years indicated that their interim self-assessments often showed little improvement for a few years and then they achieved a step change. Are there precessional effects? Most organizations tended to have senior executives focus on improving their areas of responsibility to improve the business as a whole. Work on the CPE was seen as an add-on to their role. Also, as one

interviewee pointed out, they did not need the evaluators' report to tell them how to improve their business. There were however some organizations where work on the opportunities for improvement indicated in the evaluators' report and the achievement of better scores were built into the senior executives' remuneration scheme.

Annual self-assessment was favoured by the larger organizations to maintain their knowledge of how they were progressing. The smaller companies had less need of the formal approach as they were in a position to know their whole business more easily. Many organisations mentioned the daunting language of the CPE and a number have come up with their own models or metaphors to make the framework accessible to their employees.

In this paper we have examined how seven New Zealand organizations from a range of sectors that have tested their business against the same set of criteria, the Baldrige criteria, have gone about making progress up the scoring scale. We have found no evidence of a "barbed wire barrier" as these firms make steady progress up through the bands. We have found that increases in scores in some categories is related to increase in total score, that as expected the total enablers score is strongly correlated with the change in results score, and that firms' progress is consistent with the concept of equifinality.

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